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ABSTRACT

Developments in schools that redefine the relationship between school and community are described in this paper. The Environment and School Initiatives (ENSI) project seeks to combine two apparently contradictory aims of education: to develop "environmental sensitivity" and to promote students' "dynamic qualities" by involving them in coping with problems in their immediate internal and external environments. The first part of this paper presents examples of ENSI activities in which students and teachers are involved and describes the features common to these activities. Programs implemented in Austria, Bavaria, Italy, and Norway are briefly described. Two new tasks of education that have emerged from the process of opening the schools to the community are the production of local knowledge, and action to improve environmental conditions. In addition, opening the schools has facilitated the growth of dynamic exchange networks. The second section of the paper outlines the social forces that stimulate development and the challenges they pose for schools. Increasing social complexity and insecurity and the reduced decision-making capacity of socioeconomic systems contribute to the need for decentralized responsibility. (13 references) (LMI)

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Peter Posch

THE IMPACT OF THE ENSI PROJECT ON SCHOOL-COMMUNITY RELATIONS: ISSUES AND POSSIBILITIES

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Introduction

The project "Environment and School Initiatives" (ENSI) tries to combine two apparently contradictory aims of education: to develop 'environmental sensitivity' and to promote 'dynamic qualities' by involving students in defining and coping with problems in their immediate environment inside and outside school.
In this presentation I want to point out some developments in schools which appear to redefine the relationship between school and community. In my first part I shall give a few examples of the kinds of activity teachers and students participating in ENSI are involved in and shall try to describe common features of these examples in more general terms.
In the second part I shall delineate some of the social forces which seem to stimulate this development and the challenges they pose for schools.

1. Opening schools and the emergence of new community-centered tasks in education

Let me first give you a few very different examples of activities of ENSI schools (OECD/CERI 1991):

A primary school in **Thomasroith** (Austria) has developed a number of small initiatives to raise the awareness of environmental problems. One of them was an "environmental pillory" set up in front of the school, at a site easily visible for everyone. The pupils (ages 6 - 10) attached all the waste objects collected in the streets and in nature to this pillory. In a period of three months there were less and less objects found on the road. It obviously had an effect on most adults passing by to see their carelessness made visible by the children (Haas 1991)

In a primary school in **Baiern-Antholing**, Bavaria (FRG), a class teacher together with his pupils (ages 8 - 10) developed the surrounding area of their school. On a plot previously used for agricultural purposes, a natural meadow, a village pond, a field with historical types of grain and wild herbs as well as a protective hedge were set up in cooperation with parents and local farmers.

In **Mantova** (Italy), five vocational upper secondary schools and 12 middle schools cooperate to perform a continuous study of the water quality and the degree of pollution of ground- and surface waters

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in individual communities.
The activities are coordinated by a steering group of teachers and students of the technical schools (age 18 -19) and financed by the municipality. The responsibilities of the pupils range from the selection and drawing of samples, the chemical, bacteriological, and microplancton analysis to the reporting of results to the responsible authorities. The Water Analysis Project is part of the normal curriculum. 13 teachers and pupils of 20 classes are involved in it (Sutti 1991).

Two schools in **Overhalla** (Norway) were involved in the project "Archeology at School". In cooperation with the archeologists of the local museum and a scientist of the University of Trondheim, and in the framework of the subjects natural sciences, civics, history and language the pupils (age 15) documented historical relics, reconstructed the changes of the landscape on a map, rebuilt Stone Age and Iron Age dwellings and cultivated a field with Iron Age methods. The pupils wrote texts on their local history and dramatized a study on the living conditions during the Iron Age.

Bratteberg School is situated on the island **Öckerö**. In this school, an attempt was made to reorganize school-life in order to counteract the negative effects of the economically difficult situation on the island. An "Alliance for Better Learning" of teachers, parents, trades-people and others was founded to help overcome the isolation between school and the population by means of projects and to give the pupils the opportunity to take an active and creative part in the cultural and economic life of the community. Numerous projects were implemented, which were partly of a long term nature. Among other things they established a fish farm, a greenhouse, a studio for radio- and TV productions, and a wind power plant. One third of the total time available for lessons is used to carry out the projects. The projects are partly financed by the alliance, but partly they they are commercially utilized and finance themselves (Rapp 1991).

In a secondary school in the **Tyrol**, Austria, 13 to 14 year old students studied the use of energy in four small villages. They prepared a questionnaire, went from house to house in pairs, asked for collaboration and offered assistance in data collection. Nearly 70 % of the households had filled in the questionnaire. The students processed the data at school and produced a comparative analysis of the use of energy for each house and for each village. The results were presented by the students at a public event. People who had asked for it were provided with proposals for saving energy on the basis of their individual data. The teachers involved and their students kept "research diaries" to facilitate reflection on the progress of work. A follow-up activity which - though originally not intended - emerged from this initiative was the establishment of several local initiatives to manufacture sun collectors. In 1990 the project was followed by another project, in

which the energy situation of a more sizeable community was analyzed (Mair 1991a).

What is similar in all of these examples? Teachers and students do not stay within the confines of school but open the school to extend their activities into the community and environment.

This **opening of the school** occurs on three levels:
- *Opening in the sense of tapping external resources* for teaching and learning. Use is made of the wealth of authentic information that is available outside the school doors and that goes far beyond the subject matter content that is systematised in textbooks or that is accessible through the teachers' knowledge.
- Opening in the sense of taking initiative to define problems in the environment and to transform values into practical action. This notion of opening deviates somewhat from conventional interpretations of what schools are for. It implies that teachers and students have a right to participate in shaping the environment they live in.
- Opening in the sense of responding to concerns of the community and offering the schools' intellectual, creative and material potential to interests coming from outside.

Related to this notion of opening the schools to the community two new tasks of education emerge which, at first sight, do not seem compatible with traditional tasks of schooling: The production of local knowledge and interventions to change environmental conditions.

The production of local knowledge

In all of these examples which I prsented students produce local knowledge, i.e. knowledge of specific conditions of their environment. This process has several features:
- The knowledge produced is not a reconstruction of existing knowledge but is potentially **"new" knowledge**. It may provide information on issues which was not available so far.
- The knowledge is **specific knowledge** generated in specific contexts. It is potentially valid in this context but not necessarily in other contexts.
- The knowledge is potentially **useful for a specific audience**. It may increase its ability to understand situations and to cope with demands.
- For the students the generation of local knowledge implies a integration of experience-based judgement with available systematic knowledge.

Responsible action to improve environmental conditions

Some of the examples also show direct involvement of students and teachers in the improvement of their environment.
Such influence can have several forms of expressions:

- Activities to inform other people. In many cases research activities to gather and analyse evidence (i.e. local knowledge generation) are a necessary prerequisite for this purpose.
- Activities to convince others of the usefulness and feasibility of certain changes or to exert pressure (e.g. by personal example, by petitions, public hearings, letters, by involving the local press etc.).
- Hands-on construction of alternative environments (by buying land for biotopes, developing the ambiente at school, reducing waste at school etc.).

Activities to produce knowledge for the community and to influence environmental situations confront students with open-ended situations and often with controversial perceptions of reality and values. They are challenges to use their intellectual, emotional, creative, and organisational capacities; they provide the experience that environmental situations are determined by human intervention and that students can actively participate in the construction of reality. A correlation is established between school learning and activities to cope with real-life problems.
As a 15 year old student put it: "To prepare for life means to realize something now" (Mair 1990).
The justification of these activities is not derived from their assumed learning potential but from the determination to realize values in the students' environment.

Both tasks, generation of local knowledge and taking influence on the environment, provide an opportunity for the young to play a role in society and to do something that makes a difference, to leave traces in a constructive sense. They have emerged from the assumption that there are problems in our society which cannot be coped with successfully if the processes of learning, of knowledge generation, and of interventive action are separated from each other.

The emergence of dynamic networks

Apart from the new tasks which I described there is still another phenomenon associated with opening the schools: The character of the exchange networks within the school system and between schools and the outside world appears to be changing.

Traditionally schools are characterised by a predominantly hierarchical structure of communication. This hierarchy is expressed in several ways. One is the classical Research Development and Dissemination model of educational innovation. Researchers produce the theoretical framework for an innovation. Then it is applied to solve a generalised practical problem. The

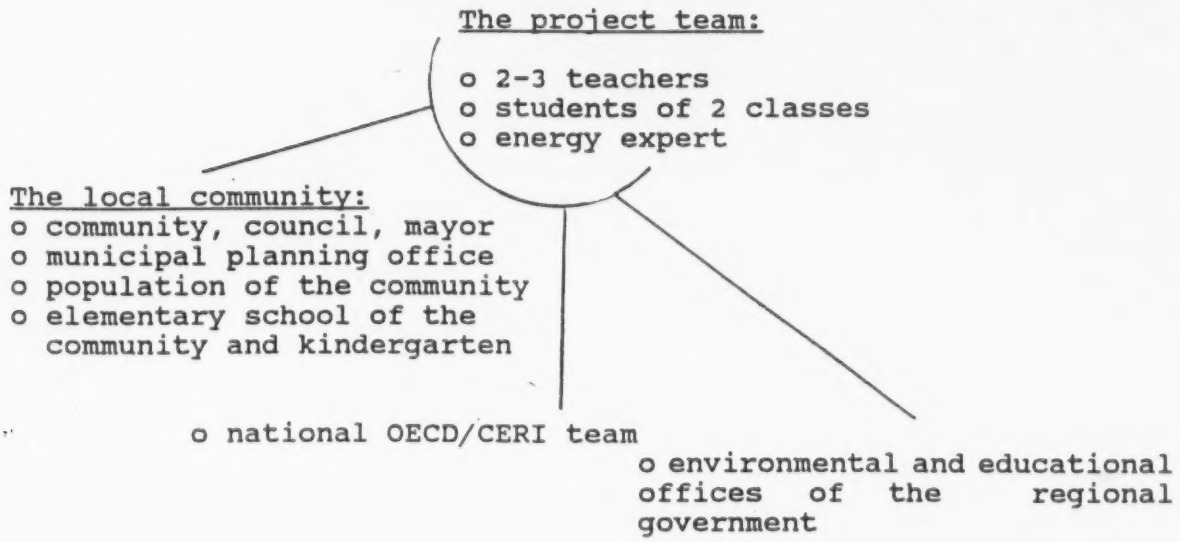
intended result is a well-tested product that is as user-proof as possible. It is disseminated to practitioners with the expectation that if it is used in a prescribed way it would improve the situation.

Another expression of the hierarchical structure of communication is the hierarchy of credibility. It implies that a person is the more credible the higher he or she is in the institutional power structure. The teacher is considered to be more credible than the student, the head of department more credible than the teacher, the principal more credible than the head of department etc. Within the institutional structure the teacher is at the lower end of a chain of expectations, demands and regulations. The individual teachers (and even more so the students) are primarily seen as objects of influence but not as subjects exerting influence.

In many environmental school initiatives we can see a divergence from this familiar hierarchical structure of communication. We observe that teachers and students initiate exchange processes with their communities. They **create** networks in order to translate their environmental concerns into practice.

Let me give you an example. The energy project, one of the examples given in the first section of this paper, has been continued on a more advanced level. The experiences gained in the four small communities and the energy-saving model emerging from them have stimulated the teachers and students to approach a larger community. The increased complexity made it necessary to look for partners and for external support.
Links have been established with the local elementary school and the kindergarten and both have become involved in the project. The intentions to achieve impact on the use of energy in the community demanded a positive formal relationship to the community. So the mayor and the community council had to be convinced of the usefulness of the project. The local council was won over to make a formal decision in support of the project.
During the project a need for additional technical know how evolved which could not be satisfied within the school. As a result an external energy expert was asked for advise. In order to get the financial resources the regional government was contacted to pay for his time etc (Mair 1991b).

The network that emerged during the energy project described was quite large (Mair 1991a):


The project team:
o 2-3 teachers
o students of 2 classes
o energy expert
The local community:
o community, council, mayor
o municipal planning office
o population of the community
o elementary school of the community and kindergarten
o national OECD/CERI team
o environmental and educational offices of the regional government

This example illustrates a remarkable development in schools: the evolution of non hierarchical "dynamic" networks (a term introduced by Miles and Snow 1986). These networks of communication are developed by teachers and students because they appear to be necessary to help them understand and influence the situation they live in. The networks are non hierarchical because they do not follow predefined routes of (generally top-down) influence. They are dynamic because they are limited to the demands of specific tasks as defined by the teachers and students involved. As a result, they are flexible with respect to the kinds of exchange processes and with respect to partners and duration. The essential feature of dynamic networks is the autonomous and flexible establishment of relationships to assist responsible action in the face of complexity and uncertainty.

Dynamic networks contradict one of the traditional assumptions of schooling: the assumption of a separation of school and society. If dynamic networks develop it is difficult to say where the educational organisation ends and where society and its abundance of personal and institutional relationships begin.

In most cases, dynamic networks are still limited to the local level. The idea that they could also develop on a regional, national and even international level is eloquently expressed by one of the pupils involved in the energy project:
"The polluters are linked on a world-wide scope. One should also link all people involved in environmental education. The efficiency of activities against inacceptable states of affairs and abuses

would increase. We should build a network of students who investigate the energetic and environmental situation of their immediate localities, develop improvements and exchange data via computer networks. Then we could react more quickly to positive and negative environmental changes, could go public more effectively and could exert more influence on the regional and supraregional energy politics." This sounds utopian but points into a direction in which interesting developments can be expected.

2. Background forces

What are some of the forces "behind" these phenomena? There are, of course, many developments in society that influence schools in a substantial way and that seem to enforce a change in the conceptualisation of teaching and learning to include a crossing of borders between school and community. I cannot go into detail here but want to summarise them in two theses:

- The effects and side effects of human activity become less and less predictable. As a result, decisions have to be taken more and more in the face of conflicting demands and insecurity.
- More and more effects of human activity pose a threat to survival. In other words: the enormous 'life potential' of economic/technological development is confronted with a growing 'death potential' creating serious problems for the established decision making mechanisms.

In short, social complexity and insecurity is increasing and the decision-making capacity of socio-economic systems is decreasing. If this is correct, some implications can be derived which affect schools. Abilities that traditionally have been demanded from the elites in society are now increasingly demanded from each citizen: the readiness to take responsibility in *shaping* public and private affairs.

Complexity and increasing risks seem to enforce a decentralisation of initiative, responsibility and competences from the institutions and traditional powers to the individual citizen. This implies that the individual citizen must increasingly be ready to deal with complexity and to take initiatives.

This development has produced substantial challenges to schools:

- How are students prepared to cope with contradictory demands, insecurity and plurality of values?
- How are they prepared to take initiative and to influence the world they live in, and do this in a responsible way?

It seems that the traditional understanding of the tasks of schooling cannot answer these questions in a satisfactory way. The cultures of teaching and learning in school are still attuned to a static society. in which the necessary knowledge, competences, and values are predefined and stored in curricula, tests and accredited

textbooks, and in which schools are expected to prepare the majority of children and young people to satisfactorily meet the demands which others have defined for them. The main characteristics of this culture are:

- *Predominance of systematic knowledge:* It gives priority to well-established facts and enables schools to maintain a close relationship to the results of academic knowledge production. Low priority is given to open and controversial areas of knowledge and to the process of knowledge generation.
- *Specialization:* The knowledge is compartmentalised in subject matter fields which more or less correspond to the academic disciplines. This again facilitates the orientation on academic knowledge structures. On the other hand, complex, real-life situations tend to be disregarded because they cross the disciplinary borders.
- *Transmission-mode of teaching:* This mode facilitates the retainment of the systematic character of knowledge and its reconstruction by the student. It tends to discourage the generation and reflective handling of knowledge.
- *Prevalence of top-down communication:* It facilitates the control process for pre-defined knowledge structures and discourages self-control and cooperation between students (or teachers).

Environmental school initiatives seem to offer a constructive way of introducing dynamic elements into the culture of teaching and learning. They represent situations in which students have to define problems in view of uncertainty, contrasting evidence, and divergent values, in which the quality of their work (of the knowledge produced, and of the activities engaged in) potentially makes a difference for other people and in which strategies to negotiate, to organise, to make compromises, to cooperate, and to solve conflicts are needed.

It is a specific characteristic of environmental school initiatives that they have a political dimension "here and now" and that they provide opportunities to teachers and students to take part in the shaping of conditions influencing their lives.
Teachers and students involved in successful Environmental school initiatives are sooner or later intrigued by the experience that they are gaining influence not only inside school but also outside. They experience a shift in the distribution of power which can be felt in diverse ways: they are listened to, they are consulted, they are invited to negotiations, they are offered access to resources, etc. They are no longer only passive recipients of demands from other institutions but are also respected as partners - though often reluctantly at first.

Environmental school initiatives are still on the margin of main stream education (ELLIOTT 1991). There is a relatively small minority of teachers involved in them, they are often done outside regular classes and they are generally not included in the traditional assessment system (although much "real-life" assessment

is occurring). But there are two characteristics which may indicate some change:
In some countries environmental school initiatives constitute one of the most rapidly growing innovations and - if the energy and time invested by teachers and students is taken into consideration - one of the most powerful innovations.
Secondly, nearly all of these initiatives are not mandated but are grass roots developments. They happen because teachers and students want them to happen (although there is an increasing outside support by parents and by the communities concerned).

It seems important therefore to have a close look at these developments in order to better understand their potential to transform education in view of a rapidly changing world.

In what ways do these initiatives increase the "significance value" (Tenbruck 1975) of the school for students and what are their spin-offs for main-stream education?

What are the problems and potential pitfalls of these initiatives and how are they coped with?

In what ways do they change the balance of static and dynamic elements of school culture?

In what ways do they effect the status of schools (and teachers) in the community and perhaps in society at large?

It is one of the aims of the International Environment and School Initiatives Project to pose such questions and to contribute to their understanding. But ENSI is not only a group of academic researchers engaging in research on involved teachers and students to evaluate what they are doing. It is primarily an organisational structure linking teachers and students who are already involved in environmental initiatives. Increasingly research is emerging from a systematic reflection by these teachers (in some cases also by their students) on their initiatives. This - it seems - is in itself an innovation.

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